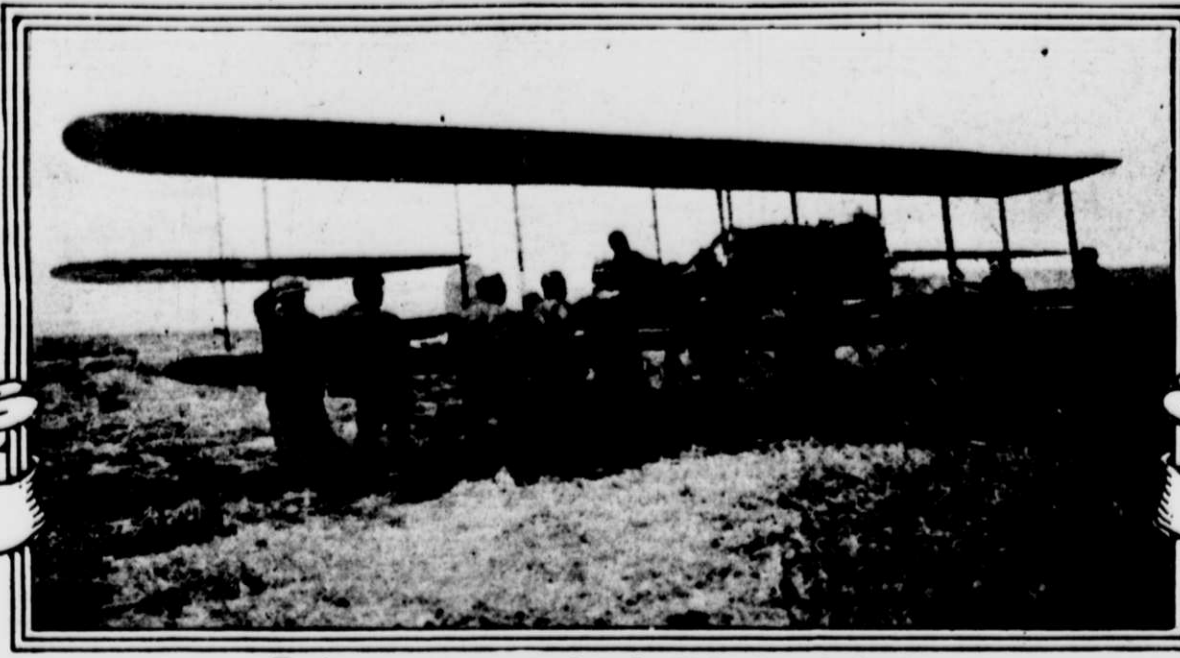


"EAGLES OF THE ARMY" TO CEASE TO BE A JOKE

Uncle Sam Now Preparing to Place His Aviation Corps on Par With That of Other World Powers

The United States, which gave to the world the science of aviation, is exemplified in the experiments of the Wright brothers, is now preparing to step into line with the other world powers and to establish an

costs \$5,000 and torpedoes are frequently lost in practice through deflection in direction, which makes it impossible to follow them from the conning tower of a ship. But the aerial scout in a flying machine can follow a



Tuning up an army aeroplane for flight along the border.



The army workshops at San Diego, where military aviators are given instructions in mechanics of aeroplanes.

Sixty Officers to Be Selected and 260 Privates to Be Drilled as Pilots for the New Born Branch of Defence

not within the District of Columbia." The object of excepting the District of Columbia is said to be twofold: First, to remove the school as far as possible from the influence of the bureaucracy alleged to govern the War Department, the past year show even more clearly the "parsimonious policy" of the United States in dealing with the subject. The figures for 1913 were:

France \$7,400,000
Germany 5,000,000



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Col. Samuel Reber, chief signal officer, War Department.

aviation corps for the defence of the nation in time of war.

Up to this time the United States has been behind other nations in this matter. The American air navy has been more or less a joke. The United States, according to the latest available statistics, ranks eighth among the nations of the world with respect to her air force.

By reason of a bill recently passed by the Senate all this is to be changed. An aviation corps, distinct from the Signal Corps, in which aviators have heretofore been placed, will be formed; sixty officers are to be selected from the cream of the army and 260 privates are to be drilled in the essentials of flying. At the same time appropriations are to be made for the construction of a number of military airships, including biplanes and dirigibles, and the more or less antiquated models now in use by the army will be relegated to the scrap heap or used only for demonstration purposes.

The bill providing for the establishment of this aviation corps—the "eagles of the army"—was introduced into the House of Representatives on May 16, 1913, by Representative Hay of Virginia, chairman of the House Committee on Military Affairs, and was passed last December. The bill, backed by an appropriation of \$250,000, authorized last May, gives the army Signal Corps, commanded by Brig.-Gen. George P. Scriven, an opportunity to go ahead with the work which has been planned.

At the present time the army aviation corps, under the direction of Col. Samuel Reber, though a compact and essentially efficient body, is very small when compared with similar organizations maintained by the other world powers. Secretary of the Navy Daniels recently recognized this crying need for a larger force of aeroplanes when he said:

"The question of aviation is one of the most important in connection with the military service of the United States today. Military experts predict that the next great war will be fought at least partially in the air. May we not, therefore, paraphrase Napoleon a trifle and say that 'Providence will probably be on the side which has the best aeroplanes and dirigibles'?"

Great Britain, Germany and France are the only world powers which out-rank the United States in naval strength. But consider the comparative war strength in air craft. The latest available statistics of military statistics show:

	Aero-planes.	Hydros.	Dirigibles.
France	408	29	14
Germany	400	14	17
Great Britain	250	12	12
United States	148	10	7
Italy	50	7	10
Japan	27	4	2
Austria	26	4	4
Belgium	18	5	1
Russia	10	10	1
Spain	3	3	2

It is therefore to be seen that the United States, with a greater home land boundary line to be protected than any other world power, stands eighth on the list with regard to its aerial arm.

There is the fact that France in one year appropriated \$7,400,000 to solve her aviation problem, while Germany and Great Britain have appropriated \$5,000,000 and \$4,000,000 respectively. The United States, for this object shows what she is capable of doing when the question of national defence is at stake. The most recent Congressional appropriation for aviation purposes was \$250,000.

The use of aeroplanes to the army is practically incalculable. Their scouting and reconnoitering and the information which their pilots bring back may be instrumental in saving hundreds of thousands of lives. They are other invaluable uses for aeroplanes in the navy. A torpedo

torpedo's course, unerringly by watching it from above and the price of one aeroplane is only a fraction of that of a torpedo.

"Then, again, water—comparatively opaque from a point near its surface—becomes transparent to an observer in the air. Experts say that mines can be easily located by aerial scouts. One mine may wreck a \$10,000,000 battleship. An aeroplane, costing but a fraction of this sum, would mean the ship's safety.

"In my opinion, the newly developed art of aviation will not only tend to limit the duration and scope of hostile operations, but will also aid in the control of the seas, one of the elements contributing materially to the power and prosperity of a nation.

"With the Panama Canal, as well as our coast fortifications to guard, not only from land and water, but also from the air, steps must and should be taken to muster an air fleet absolutely second to none on either hemisphere."

The reason for the selection in the Hay bill of the army for the first experiment is because the army is at present far behind the navy in attention to aviation and in the success attained by its corps. This is due to the fact that the army has been very much hampered by lack of sufficient funds and by the failure of Congress to designate any single branch of the service as an aviation corps, placing the burden of the air work on the Signal Corps.

The navy, on the contrary, has for some time possessed an aviation corps which has done splendid work. The recent movement of the base of this corps from Annapolis, Md., to Pensacola, Fla., has given the navy additional opportunity for excellent work.

When the fleet was ordered to Vera Cruz the battleship Mississippi, which acted as the home station of the hydros, was sent south with the other fighting units of the navy, and the work of the navy's aeroplanes in the neighborhood of Vera Cruz was the subject of more than one complimentary message from Rear Admiral Fletcher.

The army sent no aeroplanes to Mexico for a very good reason—it had none to send that could do the work demanded of them.

The army's fleet of aeroplanes is divided into four sections, one at Galveston, Tex.; one at San Diego, Cal.; one in the Hawaiian Islands and one in the Philippines. These military aeroplanes are out of date in the sense that they are capable of being used only for scouting purposes and are not fitted for either defensive or offensive purposes.

In the event of an invasion of Mexico the army aeroplanes at present in use would be invaluable for use in determining the position and number of the enemy's forces. But when it came to active participation in a battle they would be practically useless, while the majority of the European air corps are fitted up with special rifle rests, ammunition carriers and munitions of war in order to repulse attack from above or to offer fight to forces on the ground.

"We must start by perfecting our scouting system," is the opinion of Col. Samuel Reber, who is in charge of the present aviation squad, "as a child first learns to crawl. After that he may take up walking and then running. In the case of aviation 'running' means we will have a fully equipped fleet of offensive airships—our actions will probably consist of anything but 'running' in the literal meaning of the word.

"The advantage of the aeroplane for scouting purposes can hardly be over-estimated. The military pilot seated five hundred or a thousand feet in the air is able to see points of vantage and to catch glimpses of men on the ground which would be entirely invisible either to the commander or to his scouts on the level. The number in any one detachment

could be ascertained with a surprising degree of accuracy by a pilot versed in the art of war and the information which he brings back to earth would be invaluable to the commander planning his campaign for the following day or his attack for the next hour.

"Again, aeroplanes at a height of 2,000 feet are practically safe from all kinds of projectiles from the earth. The only way in which they can be practically attacked with any degree of accuracy is by means of other aeroplanes and this is a condition which we would not have to face in a war against any other American nation. In the event of war with any European Power, however, it is a contingency which would cause considerable concern.

"We have succeeded in bringing our aviation scouting operations to such a degree of success that the time is entirely ripe for the next step in the logical sequence—the establishment of a separate aviation corps which will be

powerful enough to defend itself if attacked or to give battle to small bodies of men on the ground, in addition to making the highly important and immensely valuable surveys of the territory in front of the advancing army."

The Hay bill provides for the creation of "an aviation corps which shall be a part of the line of the army and in which there shall be officers in number, and with rank while serving in the corps, as follows: One officer of the rank of Major, who shall be the commander of the corps and of the aviation school; two officers with the rank of Captain and not to exceed thirty officers with the rank of Lieutenant."

"No officer shall be detailed as commandant of the aviation corps unless he shall have displayed special skill and ability as a military aviator," continues the bill, in order to make it impossible for an officer from some other branch of the army to assume charge of the corps merely through political in-

fluence. It will be remembered that Major-Gen. Leonard Wood and Representative Hay were always at daggers drawn, and those who are familiar with this feud see an echo of it in this provision of the Hay bill.

That service in the aviation corps will entail much greater danger than ordinary military training calls for is recognized in the section of the Hay bill which provides that "officers of the aviation corps shall while on duty that requires them to participate in aerial flights receive an increase of 50 per cent. in the pay of their respective grades in the corps." The 50 per cent. increase in pay is also extended to the enlisted men, not to exceed 260 in number, who will participate in the work of the corps.

The establishment of an army aviation school is provided for. The bill says: "This aviation school shall be located and maintained at a military post owned by the United States and

SHE HAS ALL PARIS WONDERING



Mlle. Lyska Kostio, a young Russian actress at the Theatre Michel, whose eccentricities are amusing Paris, takes special delight in donning male attire; the accompanying picture shows her in one of her "lounging suits," surrounded by her famous collection of dolls of all nationalities, said to be the largest and most complete owned by any individual person.

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Brig.-Gen. George P. Scriven, chief signal officer, army.

and, secondly, to prevent the overcrowding of the Government ground in the District.

An estimate of the total expenditures of the different Governments for aeronautical work during five years approximates \$100,000,000. The division is as follows:

1. Germany	\$28,000,000
2. France	22,000,000
3. Russia	12,000,000
4. Italy	8,000,000
5. Austria	5,000,000
6. England	3,000,000
7. Belgium	2,000,000
8. Japan	1,500,000
9. Chile	700,000
10. Bulgaria	600,000
11. Greece	600,000
12. Spain	550,000
13. Brazil	500,000
14. United States	425,000
15. Denmark	300,000
16. Sweden	250,000
17. China	220,000
18. Rumania	200,000
19. Holland	150,000
20. Serbia	125,000
21. Norway	100,000
22. Turkey	70,000
23. Mexico	60,000
24. Argentina	55,000
25. Montenegro	50,000
26. Cuba	40,000

Total \$88,570,000
The figures of the appropriations for

Russia 5,000,000
England 3,000,000
Japan 1,000,000
Italy 2,100,000
Mexico 400,000
United States 125,000

So that, by doubling the 1913 appropriation, as provided for this year, the appropriation for aviation work in the United States still remains even below that of Mexico.

Another significant item in the above lists is the fact that in 1913 Japan appropriated \$1,000,000 for military aviation and that during the past five years she has set aside \$1,500,000 for this purpose. This shows conclusively that the Mikado's Government has come to a sudden realization of the importance of aviation to a power which aspires to world conquests and that in future the Japanese will expend millions in this most important military work.

It is the hope of the men who have the interests of the American aviation corps at heart that before long the triumphs of the newly born branch of the army will be such that Congress will not be able to withstand the pleas for appropriations sufficient to place the aviation corps on an approximate level with the corresponding branches of other great armies.

GIGANTIC PIERS FOR NEW YORK

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pillings tied to the two main flanking walls. Again, all of this space is full of water and strictly speaking the structure is not yet a dam. How, then, is the Hudson River to be held at bay? Here is where engineering cunning of the practical sort is applied.

The intervening pockets are now being filled with mud and gravel dredged from the river bottom. This stuff will constitute the marrow of the spine of the bulkhead, and in setting will press out much of its contained water and will automatically seal even the smallest of the interstices between the hooks of the walls of sheet piling. In this way the cofferdam will be solidified and the material dredged from the river bed over which the Hudson formerly flowed will be the medium of holding the river at arm's length when the landward basin is drained.

But, as Commissioner Smith has said, the present project is an unprecedented undertaking and the enormous mass of water, with its tremendous pressure, must be met efficiently. To this end, he says: "It will be necessary to sustain the steel piles by a bank of rip-rap on the inshore side of the cofferdam approximately 70 feet in width at the base and reaching to an elevation of about six feet above mean low water.

"Again, to stiffen the outer face of the structure, the offshore side of the dam will be supported by a similar embankment of clay.

"Lying between the dam and the shore today are roughly 55,000,000 gallons of water, and this will be pumped out at the proper time. It is expected that this operation will take three or four days to accomplish, and when done it will leave a dry area 800 feet in length by approximately 200 feet in width. Then this area, which is estimated at 76,500 cubic yards of solid rock, will have to be blasted out to make the necessary slip room."

Of course, before this removal of the bulkhead or cofferdam is started, the rock hewn basin will again be flooded to equalize hydrostatic pressure on both sides of the bulkhead. This will facilitate the extraction of the piling and reduce the task to an operation practically akin to that of pulling loose a stake driven into the riverbed.

It sounds quite simple, doesn't it? But a vast deal of calculating has been done, because a failure might imperil the lives of the hundreds of men that will soon be at work drilling into, blasting, and removing the rock that must be torn from the stony side of Manhattan.

In the course of the next two months, this artificial basin will be drained dry. If you have not been fortunate enough to visit Panama you will find much up at Forty-sixth street, west, to fill you with admiring awe and to compensate you for staying at home. It will be a sight worth seeing.